[...] transmitted with a delay, the delay time being determined
by the prioritization, so that a higher data rate is achieved
for data packets which belong to services having higher
priority.

From US patent 6,452,915, an IP stream classification system
for use in a wireless communication system is known.

The object of the invention is to indicate a method which
reduces the loss of real-time-critical transmission packets
relative to non-real-time-critical transmission packets within
a station of a radiotelecommunication system.

This object is achieved, based upon the method defined in the
preamble of claim 1, in the features specified in the
characterizing part of claim 1.

In the inventive method for controlling data circuits in order
to transmit data via data circuits that are allocated to
different applications in a local area network comprising at
least two stations which are configured for transmitting data,
at least one first transmission protocol or at least one
alternative second transmission protocol being assigned to a
data packet so as to transmit data that is segmented into data
packets, wherein a first transmission protocol functions in
conformance with a connection-oriented transport protocol and a
second transmission protocol functions in conformance with a
connectionless transport protocol, the data packets of the
first transmission protocol are managed by the station in one
queue and the data packets of the second transmission protocol
are managed in another queue, the transmission times of the
data packets are established in accordance with the assigned
transmission protocol, the establishment of the transmission
times being carried out on the basis of a first prioritization

AMENDED SHEET

such that different priorities are assigned to the transmission protocols.

The method according to the invention enables a local area network to respond more flexibly to the availability of a selection of multiple transmission protocols. This degree of freedom also makes it possible to balance out the advantages and disadvantages of the transmission protocols so that the effectiveness and utilization of the resource capacity of the local area network can be increased.

Furthermore, the transmission times are established on the basis of a first prioritization such that different priorities are assigned to the transmission protocols so that the protocols can be weighted according to at least one of their characteristics and so that control algorithms are in a position to incorporate these characteristics within the network at advantageous times.

Additionally, the transmission times can be established on the basis of a second prioritization such that the data packets are prioritized according to their assignment to applications. This enables the observance of different service quality requirements demanded of applications to which the same transmission protocol is assigned. In addition, a further layer for adjusting network characteristics, which allows more adapted data flow control, is achieved.

Moreover, a first transmission protocol functions in conformance with a connection-oriented transport protocol, in particular the TCP protocol, and a second transmission protocol functions in conformance with a connectionless transport protocol, in particular the UDP protocol, a lower priority preferably being assignable to the first transmission protocol

than to the second protocol. This prevents packets of the connectionless protocol being lost as a result of

algorithms assigned to the connection-oriented transmission protocol increasing the data throughput on a transmission medium up to saturation level. Such losses would be noticeable mainly in the case of connectionless transmission protocols since, as their loss cannot be detected, no repetition of the packet occurs. By contrast, losses of packets sent using a connection-oriented transmission method can be detected and consequently resent. Since connectionless transmission protocols are often used for data transmission by video and voice applications, this would result in an increasing number of disruptive gremlins. Using the inventive method, by contrast, the packets [...]

Claims

1. Method for controlling data circuits in order to transmit
    data via data circuits that are allocated to different
    applications in a local area network (WLAN) comprising at
    least two stations which are configured for transmitting
    data, wherein at least one first transmission protocol or
    at least one alternative second transmission protocol is
    assigned to a data packet so as to transmit data that is
    segmented into data packets, characterized in that
    a)   a first transmission protocol functions in
    conformance with a connection-oriented transport protocol
    and a second transmission protocol functions in conformance
    with a connectionless transport protocol,
    b)   the data packets of the first transmission protocol
    are managed by the station in a queue and the data packets
    of the second transmission protocol are managed by the
    station in another queue,
    c) the transmission times of the data packets are
    established in accordance with the assigned transmission
    protocol, wherein the transmission times are established on
    the basis of a first prioritization such that different
    priorities are assigned to the transmission protocols.

2. Method according to claim 1, characterized in that the
    transmission times are established on the basis of a second
    prioritization such that the data packets are prioritized
    according to their assignment to applications.

3. Method according to any one of the preceding claims,
    characterized in that the connection-oriented transport
    protocol TCP and the connectionless transport protocol UDP
    function.

AMENDED SHEET

4. Method according to claim 3, characterized in that a lower priority is assignable to the first transmission protocol than to the second protocol.

5. Method according to any one of the preceding claims, characterized in that the local area network functions as a LAN, in particular as a wireless local area network (WLAN) in conformance with the IEEE 802.11 standard and its derivatives.

6. Method according to claim 5, characterized in that the establishment [of transmission times] is controlled centrally, in particular by at least one wireless access point (WAP) of the local area network.

7. Method according to claim 5, characterized in that the establishment [of transmission times] is controlled locally by the stations of the local area network.

8. Method according to claim 6 or claim 7, characterized in that the establishment [of transmission times] is carried out on the basis of information in an IP priority field.